M. Rapps Associates

2387 WEST MONROE, SUITE 123, SPRINGFIELD, ILLINOIS 62704 — (217) 787-2118

ENVIRONMENTAL ENGINEERING

April 26, 1983

Illinois Environmental Protection Agency
Division of Land Pollution Control
2200 Churchill Road
Springfield, Illinois 62706

1778020I Macoupin Co.

Re: Brighton Landfill
Subpart F

ATTN: Mark Haney

Dear Mark:

We have been asked by Gene Evans to respond to your April 14, 1983 letter which noted some apparent violations of Title 35, Ill. Adm. Code, Part 725, Subpart F. Enclosed are three water analysis reports for groundwater taken from wells at Brighton Landfill. The first report is dated 2-22-82 and presents analyses information from sampling performed November 13 thru 16, 1981. This sampling represents the first installment of the quarterly analysis required to establish background concentration per 725.194(a)(2)(A). This report had not been submitted to the Compliance Monitoring Section as the Part 725 regulations did not become effective until May 17, 1982 the date Illinois received RCRA Phase I authorization.

The two remaining enclosed water analysis reports constitute the second and third installments of the required quarterly analysis establishing background concentrations. The second report is dated 12-31-82 and presents analyses information from sampling performed on August 24th and 25th, 1982. The third report is dated 1-31-83 and presents analyses information from sampling performed on December 29, 1982. These samplings were delayed placing them out of synchronization with the quarterly periods started by the November 13 thru November 16, 1981 sampling. The reason for the delay was that several wells had to be replaced.

In regards to the fourth installment of the required quarterly analysis we have advised Gene Evans to delay taking samples. The reason for this is twofold. First, a preliminary evaluation

of the data from the three existing reports indicate that at least one downgradient well may be improperly located. Secondly, the Agency changed Brighton Landfill's groundwater monitoring program through the special conditions contained in Supplemental Permit No. 1982-69. These condition s further confused an already confusing situation. It is because of this and the indication of an improperly located downgradient well that we asked for the meeting that took place at the Agency on April 18, 1983. Per this meeting we are preparing a revised groundwater monitoring plan that will be submitted for Agency approval and which will hopefully correct the problems mentioned above. We are now awaiting a legal interpretation from the Agency concerning the Part 725 and Part 724 (proposed) rules that will allow us to proceed with putting together this revised plan.

Once the plan is approved by the Agency and can be implemented by Brighton Landfill we will provide the information to you needed to satisfy the relevant Part 725, Subpart F requirements. Until the above takes place please accept the enclosed reports as they are all the RCRA analyses that we have. Should you have any questions regarding this matter, please contact me at this office.

Sincerely,

Daniel V. Flynn

Daniel V. Flynn
M. RAPPS ASSOCIATES

DVF/jh

cc: Gene Evans
Fred Prillaman

ANALYTICAL—CHEMISTRY—RESEARCH—FIELD STUDIES

278 NO. LINDBERGH
FLORISSANT, MO. 63033

PHONE
1-314-921-4488

ENVIRONMENTAL
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Date: 02-22-82
Report No. 9122
Lab No. 166-13
P.O. No. ----

Mr. Gene Evans
BRIGHTON LANDFILL
1201 Dunn Road
St. Louis, MO 63138

REPORT OF ANALYSIS

Subject: Analysis of Ground Water Monitoring System Well water samples in accordance with EPA Hazardous Waste Management System, Part VII, Subpart F - Ground Water Monitoring, 265.92 Sampling and Analysis.

Sampling was performed from November 13 thru November 16 1981, by Environmental Science & Engineering, Inc., 11665 Lilburn Park Road, St. Louis, MO 63141. The samples were taken at Brighton Landfill property located near Brighton Illinois. A copy of the synopsis of the sampling at the Brighton Landfill, supplied by ESE, is attached to this report.

Sample Identification:
#1 - Well No. 2A, sampled on 11-16-81, 10:15 AM by ESE.
#2 - Well No. 3, sampled on 11-16-81, 9:45 AM by ESE.
#3 - Well No. 9, sampled on 11-13-81, 12:00 PM by ESE.

Results of Analysis:

	# 1	# 2	# 3
Arsenic, mg As/l	<0.001	<0.001	<0.001
Barium, mg Ba/l	0.16	0.15	0.01
Cadmium, mg Cd/l	<0.001	<0.001	<0.001
Chromium (total), mg Cr/l	0.008	<0.001	0.003
Fluoride (elec.), mg F/l	0.42	0.72	0.56
Lead, mg Pb/l	0.002	0.012	0.001

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Results of Analysis:

	# 1	# 2	# 3
Mercury, mg Hg/l	<0.0005	<0.0005	<0.0005
Nitrate Nitrogen, mg N/l	0.91	<0.10	8.78
Selenium, mg Se/l	0.002	0.002	0.001
Silver, mg Ag/l	0.002	0.005	0.005
Endrin, mg/l	<0.0002	<0.0002	<0.0002
Lindane, mg/l	<0.0002	<0.0002	<0.0002
Methoxychlor, mg/l	<0.0002	<0.0002	<0.0002
Toxaphene, mg/l	<0.002	<0.002	<0.002
2,4 - D, mg/l	<0.0002	<0.0002	<0.0002
2,4,5-TP Silvex, mg/l	<0.0002	<0.0002	<0.0002
Radium, (total) pCi/l	<0.6	<0.6	<0.6
Gross Alpha, pCi/l	<2	<2	<2
Gross Beta, pCi/l	3.0	<3	<3
Fecal Coliform, #/100 ml.	<2	<2	<2
Chloride, mg Cl/l	146	2.0	28.3
Manganese, mg Mn/l	1.33	0.99	0.014
Phenols, mg Phenol/l	<0.001	<0.001	<0.001
Sodium, mg Na/l	108	76.6	57.4
Total Sulfates, mg SO4/l	155	29.5	225
pH Value, pH Units	7.17	7.86	7.62
pH Value, pH Units	x	x	7.62
pH Value, pH Units	x	x	7.64

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Results of Analysis:

	# 1	# 2	# 3
pH Value, pH Units	x	x	7.64
Arithmetric Mean	x	x	7.63
Variance	x	x	0.01
Specific Conductance	1820	820	1190
Specific Conductance	x	x	1190
Specific Conductance	x	x	1200
Specific Conductance	x	x	1200
Arithmetric Mean	x	x	1195
Variance	x	x	5
Total Organic Carbon, mg/l	24.2	6.9	6.9
Total Organic Carbon, mg/l	x	x	6.6
Total Organic Carbon, mg/l	x	x	6.6
Total Organic Carbon, mg/l	x	x	6.7
Arithmetric Mean	x	x	6.7
Variance	x	x	0.2
Total Organic Halogen, mg/l	0.17	0.069	0.055
Total Organic Halogen, mg/l	x	x	0.040
Total Organic Halogen, mg/l	x	x	0.038
Total Organic Halogen, mg/l	x	x	0.059
Arithmetric Mean	x	x	0.048
Variance	x	x	0.011
Iron, mg Fe/l	0.09	0.03	0.03

Respectfully submitted,

R. M. Ferris, Director

ESE ENVIRONMENTAL SCIENCE AND ENGINEERING, INC.

11665 LILBURN PARK ROAD
ST. LOUIS, MISSOURI 63141
(314) 567-4600

November 30, 1981
81-826-800

Mr. Ron Ferris
Environmental Analysis, Inc.
3278 North Lindbergh
Florissant, Missouri 63033

Re: Brighton Landfill Sampling

Dear Ron:

Following is a synopsis of our sampling at the Brighton Landfill which took place November 13 and 16.

November 13

Well #9 (Background)--Started pumping using peristaltic pump at 11:15 a.m.. Removed 3 volumes and obtained sample at 12:00 p.m.. Water level remained constant at 22.5' as measured from top of casing.

Well #3 - Started pumping at 12:30 p.m.. Initial water level was 10.3'. Well was pumped dry (~25.0') by 12:40 p.m. at 1:45 p.m. water level was only 24.1. Decision made to sample on Monday, November 16.

Well #4 - Started pumping at 1:10 p.m.. Initial water level was 9.5'. Well was pumped dry (~27.5') by 1:25 p.m.. At 1:45 p.m. water level was only 27.0'. Decision made to sample on Monday, November 16.

Well #2A - Started pumping at 1:40 p.m.. Well was pumped and then bailed dry (~32.0') by 2:30 p.m.. Decision made to sample on Monday, November 16.

November 16

Well #3 - (9:45 a.m.) water level was 13.7'. Obtained 1½ gallon sample using the peristaltic pump.

Well #2A - (10:15 a.m.) water level was 13.5'. Obtained 3/4 gallon sample using pump.

Well #4 - (10:00 a.m.) water level was 26.0', no sample obtained.

Well #4 had virtually no recharge. It will take weeks for water level to return to original height. This could be due to inadequate filter pack and/or screen or due to an unusually tight clay.

If you have any questions please give me a call.

Sincerely,

Rick Folkemer

Rick Folkemer
Project Manager

DRF/lkr

ANALYTICAL–CHEMISTRY–RESEARCH–FIELD STUDIES

3278 NO. LINDBERGH
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ENVIRONMENTAL ANALYSIS INC.

Date: 31 Dec. 1982
Report No. 11124
P.O. No. Verbal

Mr. Gene Evans
BRIGHTON LANDFILL
1201 Dunn Road
St. Louis, MO 63138

REPORT OF ANALYSIS

Subject: Analysis of Ground Water Monitoring System well watersamples in accordance with EPA Hazardous Waste Management System, Part VII, Subpart F - Ground Water Monitoring, 265.92 Sampling and Analysis.

Sampling was performed on August 24th and 25th 1982 by Environmental Analysis, Inc., 3278 North Lindbergh Blvd., Florissant, Missouri 63033. The samples were taken at the Brighton Landfill property located near Brighton Illinois.

A synopsis of the monitoring well sampling at the Brighton Landfill which took place on August 24th and 25th 1982, is as follows:

August 24, 1982.

Well #9 (Upgradient) - Sampling started at 1:00 P.M., but had be stopped shortly thereafter due to rainfall.

August 25, 1982.

Well #9 (Upgradient) - The surface of the water level was 22.0 feet as measured from the top of casing. Depth to the bottom of the well measured 53.0 feet. Started sampling with a bailer at 11:30 A.M., a volume of 2.25 gallons was taken for analysis. Sampling was completed at 11:50 A.M. The sample was turbid due to the presence of very fine clay soil particles. The temperature of the sample was 62 degrees F.

Well #3 (Downgradient) - The surface of the water level was 9.3 feet as measured from the top of the casing. Depth to the bottom of the well measured 21.6 feet. Started sampling with a bailer at 12:06 P.M., a volume of 2.25 gallons was taken for analysis. Sampling was completed at 12:23 P.M. The sample taken was very slightly turbid and had a temperature of 68 degrees F.

Well #4 (Downgradient) - The surface of the water level was 17.2 feet as measured from the top of the casing. Depth to the bottom of the well measured 37.1 feet. Sampling was started with a bailer at 12:35 P.M., a volume of 2.25 gallons was taken for analysis. Sampling was completed at 1:00 P.M. The sample taken was very slightly turbid and had a temperature of 68 degrees F.

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Well #2A (Downgradient) - The surface of the water level was 12.9 feet from the top of the casing. Depth to the bottom of the well mesured 35.0 feet. Sampling was started using a bailer at 1:12 P.M., a volume of 2.25 gallons was taken for analysis. Sampling was completed at 1:30 P.M. The sample taken was turbid due to the presence of very fine clay soil particles. The temperature of the sample was 69 degrees F.

Results of Analysis:

	Well #9	Well #3	Well #4	Well #2A
Arsenic, mg As/l	0.003	0.003	0.006	0.002
Barium, mg Ba/l	0.03	0.10	0.18	0.11
Cadmium; mg Cd/l	<0.001	<0.001	<0.001	<0.001
Chromium, Tot. mg Cr/l	<0.001	0.012	<0.001	0.001
Fluoride (elec), mg F/l	1.20	1.45	1.62	1.30
Lead, mg Pb/l	0.005	0.051	0.027	0.004
Mercury, mg Hg/l	<0.0005	<0.0005	<0.0005	<0.0005
Nitrate Nitrogen, mg N/l	36.3	0.21	0.28	0.45
Selenium, mg Se/l	<0.001	<0.001	<0.001	<0.001
Silver, mg Ag/l	0.001	0.001	0.004	0.006
Endrin, mg/l	<0.0002	<0.0002	<0.0002	<0.0002
Lindane, mg/l	<0.0005	<0.0005	<0.0005	<0.0005
Methoxychlor, mg/l	<0.0005	<0.0005	<0.0005	<0.0005
Toxaphene, mg/l	<0.006	<0.006	<0.006	<0.006
2,4 - D, mg/l	<0.01	<0.01	<0.01	<0.01
2,4,5 - TP Silvex, mg/l	<0.01	<0.01	<0.01	<0.01
Radium, (Total) pCi/l	<2	5 = 4	4 = 3	3 = 2
Gross Alpha, pCi/l	<2	<2	<2	14 = 1
Gross Beta, pCi/l	<3	<3	<3	<3
Fecal Coliform, No./l	?	16	<2	<2

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Chloride, mg Cl/l	64.6	9.70	89.3	558
Manganese, mg Mn/l	0.03	1.19	<0.01	3.30
Phenols, mg Phenol/l	<0.001	<0.001	0.348	0.005
Sodium, mg Na/l	75	85	53	132
Total Sulfates, mg SO4/l	320	25.5	5.0	122
pH Value, pH Units	7.40	7.73	12.15	7.07
pH Value, pH Units	7.38	x	x	x
pH Value, pH Units	7.39	x	x	x
pH Value, pH Units	7.40	x	x	x
Arithmetric Mean	7.39	x	x	x
Variance	0.01	x	x	x
Specific Cond., umhos/cm	1510	890	2620	1920
Specific Cond., umhos/cm	1530	x	x	x
Specific Cond., umhos/cm	1560	x	x	x
Specific Cond., umhos/cm	1540	x	x	x
Arithmetric Mean	1535	x	x	x
Variance	25	x	x	x
Total Organic Carbon, mg/l	2.60	4.50	18.6	6.2
Total Organic Carbon, mg/l	2.61	x	x	x
Total Organic Carbon, mg/l	2.58	x	x	x
Total Organic Carbon, mg/l	2.52	x	x	x
Arithmetric Mean	2.57	x	x	x
Variance	0.05	x	x	x
Total Organic Halogen, mg/l	0.02	0.04	0.02	0.26
Total Organic Halogen, mg/l	0.02	x	x	x
Total Organic Halogen, mg/l	0.02	x	x	x
Total Organic Halogen, mg/l	0.02	x	x	x
Arithmetric Mean	0.02	x	x	x

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Variance	<0.01	x	x	x
Iron, (Total) mg Fe/l	0.17	4.39	0.21	0.54

Respectfully submitted,

R. M. Ferris
Director, EAI

ANALYTICAL–CHEMISTRY–RESEARCH–FIELD STUDIES

3278 NO. LINDBERGH
FLORISSANT, MO. 63033

PHONE
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ENVIRONMENTAL
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Date: 31 Jan. 1983
Report No. 11282
P.O. No. Verbal

Mr. Gene Evans
BRIGHTON LANDFILL
1201 Dunn Road
St. Louis, MO 63138

REPORT OF ANALYSIS

Subject: Analysis of Ground Water Monitoring System well water samples in accordance with EPA Hazardous Waste Management System, Part VII, Subpart F - Ground Water Monitoring, 265.92 Sampling and Analysis.

Sampling was performed on December 29, 1982 by Environmental Analysis, Inc., 3278 North Lindbergh Blvd., Florissant, Missouri 63033. The samples were taken at the Brighton Landfill property located near Brighton Illinois.

A synopsis of the monitoring well sampling at the Brighton Landfill which took place on December 29, 1982, is as follows:

December 29, 1982

Well #9 (Upgradient) - The surface of the water level was 14.7 feet as measured from the top of casing. Depth to the bottom of the well measured 53.0 feet. Started sampling with a bailer at 11:31 A.M., a volume of 2.25 gallons was taken for analysis. Sampling was completed at 11:58 A.M. The sample was clear. The temperature of the sample was 54 degrees.

Well #3 (Downgradient) - The surface of the water level was 9.5 feet as measured from the top of the casing. Depth to the bottom of the well measured 21.6 feet. Started sampling with a bailer at 12:49 P.M., a volume of 2.25 gallons was taken for analysis. Sampling was completed at 1:09 P.M. The sample taken was very slightly turbid and had a temperature of 53 degrees F.

Well #4 (Downgradient) - The surface of the water level was 9.3 feet as measured from the top of the casing. Depth to the bottom of the well measured 35.0 feet. Sampling was started with a bailer at 1:14 P.M., a volume of 2.25 gallons was taken for analysis. Sampling was completed at 1:22 P.M. The sample taken was very slightly turbid and had a temperature of 52 degrees F.

Well #2A (Downgradient) - The surface of the water level was 8.6 feet from the top of the casing. Depth to the bottom of the well mesured 35.0 feet. Sampling was started using a bailer at 1:27 P.M., a volume of 2.25 gallons was taken for analysis. Sampling was completed at 1:47 P.M. The sample taken was slightly turbid

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due to the presence of very fine clay soil particles. The temperature of the sample was 54 degrees F.

Results of Analysis:

	Well #9	Well #3	Well #4	Well #2A
Arsenic, mg As/l	0.001	0.001	0.003	0.002
Barium, mg Ba/l	0.034	0.090	0.036	0.120
Cadmium, mg Cd/l	0.002	0.004	0.002	<0.001
Chromium, Tot. mg Cr/l	0.020	0.003	<0.001	0.002
Fluoride (elec), mg F/l	0.728	0.800	1.10	0.626
Lead, mg Pb/l	0.026	0.024	0.045	0.018
Mercury, mg Hg/l	<0.0002	<0.0002	<0.0002	0.0011
Nitrate Nitrogen, mg N/l	9.45	<0.10	<0.10	0.78
Selenium, mg Se/l	<0.001	<0.001	<0.001	<0.001
Silver, mg Ag/l	0.001	0.002	0.001	0.006
Endrin, mg/l	<0.0002	<0.0002	<0.0002	<0.0002
Lindane, mg/l	<0.0002	<0.0002	<0.0002	<0.0002
Methoxychlor, mg/l	<0.0002	<0.0002	<0.0002	<0.0002
Toxaphene, mg/l	<0.005	<0.005	<0.005	<0.005
2,4 - D, mg/l	<0.0006	<0.0006	<0.0006	<0.0006
2,4,5 - TP Silvex, mg/l	<0.0002	<0.0002	<0.0002	<0.0002
Radium, (Total) pCi/l	<2	<2	<2	<2
Gross Alpha, pCi/l	<2	3	<2	5
Gross Beta, pCi/l	4	3	4	<3
Fecal Coliform, No./l	<1	1	<1	<1
Chloride, mg Cl/l	57	12.7	97	825
Manganese, mg mn/l	0.021	0.722	0.007	7.90
Phenols, mg Phenol/l	0.013	0.001	0.029	0.005

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Sodium, mg Na/l	54.6	76.7	41.4	137
Total Sulfates, mg SO4/l	310	15.5	14.0	128
pH Value, pH Units	7.73	7.69	11.48	7.31
pH Value, pH Units	7.78	x	x	x
pH Value, pH Units	7.79	x	x	x
pH Value, pH Units	7.78	x	x	x
Arithmetric Mean	7.77	x	x	x
Variance	0.04	x	x	x
Specific Cond., umhos/cm	640	390	880	980
Specific Cond., umhos/cm	640	x	x	x
Specific Cond., umhos/cm	630	x	x	x
Specific Cond., umhos/cm	660	x	x	x
Arithmetric Mean	643	x	x	x
Variance	17	x	x	x
Total Organic Carbon, mg/l	11.5	7.6	19.9	18.5
Total Organic Carbon, mg/l	12.3	x	x	x
Total Organic Carbon, mg/l	11.3	x	x	x
Total Organic Carbon, mg/l	12.1	x	x	x
Arithmetric Mean	11.8	x	x	x
Variance	0.5	x	x	x
Total Organic Halogen, mg/l	0.01	0.01	0.01	0.42
Total Organic Halogen, mg/l	0.01	x	x	x
Total Organic Halogen, mg/l	0.01	x	x	x
Total Organic Halogen, mg/l	0.02	x	x	x
Arithmetric Mean	0.01	x	x	x
Variance	0.01	x	x	x
Iron, (Total) mg Fe/l	<0.01	<0.01	0.06	0.05

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Respectfully submitted,

R. M. Ferris
Director, EAI